

CLAIMS

1. A method of manufacturing an electronic component comprising:

a mounting step for mounting a plurality of electronic functional elements, each having a substrate and an electronic functional part provided on the substrate, on a collective mounting substrate;

an arranging step for arranging a resin film on the electronic functional elements mounted on the collective mounting substrate;

a reduced-pressure packaging step for putting the electronic functional elements and the resin film mounted on the collective packing substrate in a bag with a gas-barrier property, and depressurizing the inside of the bag to hermetically seal the contents inside;

a sealing step for sealing the electronic functional elements with a sealing resin part originating from the resin film by causing the resin film to infiltrate between the electronic functional elements mounted on the collective packing substrate; and

a dividing step for dividing the collective packing substrate having the resin-sealed electronic functional elements into individual electronic functional elements.

2. The method of manufacturing an electronic component

according to claim 1, wherein,

the sealing step has a curing step for causing the resin film to infiltrate between the electronic functional elements, heating the electronic functional elements and the collective mounting substrate covered with a sealing resin part precursor formed from the resin film, and curing the sealing resin part precursor to obtain the sealing resin part,

and

the curing step has a step for performing heating in a pressure-controlled hermetically sealed space.

3. The method of manufacturing an electronic component according to claims 1 or 2, wherein, the electronic functional element is a surface acoustic wave element having a vibration part as the electronic functional part on a piezoelectric substrate.

4. The method of manufacturing an electronic component according to claim 3, wherein, in the mounting step, the vibration part is arranged so as to have a space between the vibration part and the collective mounting substrate and so as to face the collective mounting substrate.

5. The method of manufacturing an electronic component

according to claim 4, wherein,

the resin film contains filler,

in which the maximum particle size of the particle distribution of the filler is larger than the gap between the electronic functional element and the collective mounting substrate, and the occupancy of the filler having a particle size larger than the gap between the electronic functional element and the packaging collective substrate is 5 wt % or more with respect to the total amount of filler.

6. The method of manufacturing an electronic component according to any one of claims 1 to 5, wherein, the sealing step further has a thermo-compression bonding step for heating the resin film to cure the resin film and for applying pressure to the resin film by means of a roller or a press machine.

7. The method of manufacturing an electronic component according to any one of claims 1 to 6, wherein, the arranging step has a step for adhering a parting sheet on one surface of the resin film, and a step for arranging the resin film on the collective mounting substrate having the electronic functional elements thereon so that the parting sheet side of the resin film faces the outside.

8. The method of manufacturing an electronic component according to claim 7, wherein, the surface roughness of the resin film side of the parting film is in the range of 0.01 μm to 10 μm .

9. The method of manufacturing an electronic component according to any one of claims of 1 to 8, wherein, the mounting step is a flip-chip bonding step for mounting the plurality of electronic functional elements through bumps by flip-chip bonding.

10. The method of manufacturing an electronic component according to any one of claims of 1 to 9, wherein, the bag has a multi-layered structure having a thermoplastic resin layer as an innermost layer and a heat-resistant resin layer with a higher heat resistance and gas-barrier property than those of the thermo-plastic resin layer as an outermost layer.